

1 / 29

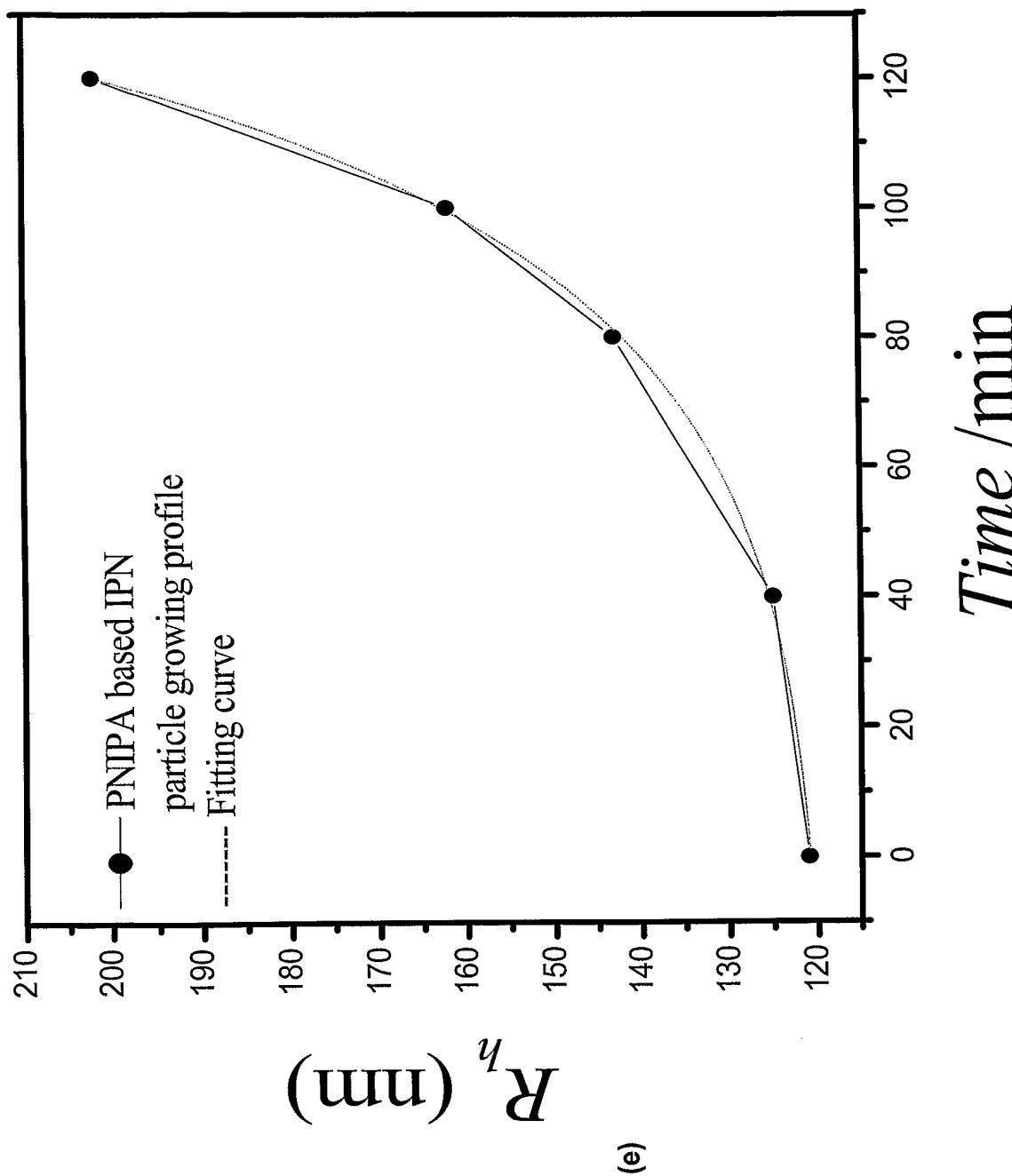


Figure 1

2 / 29

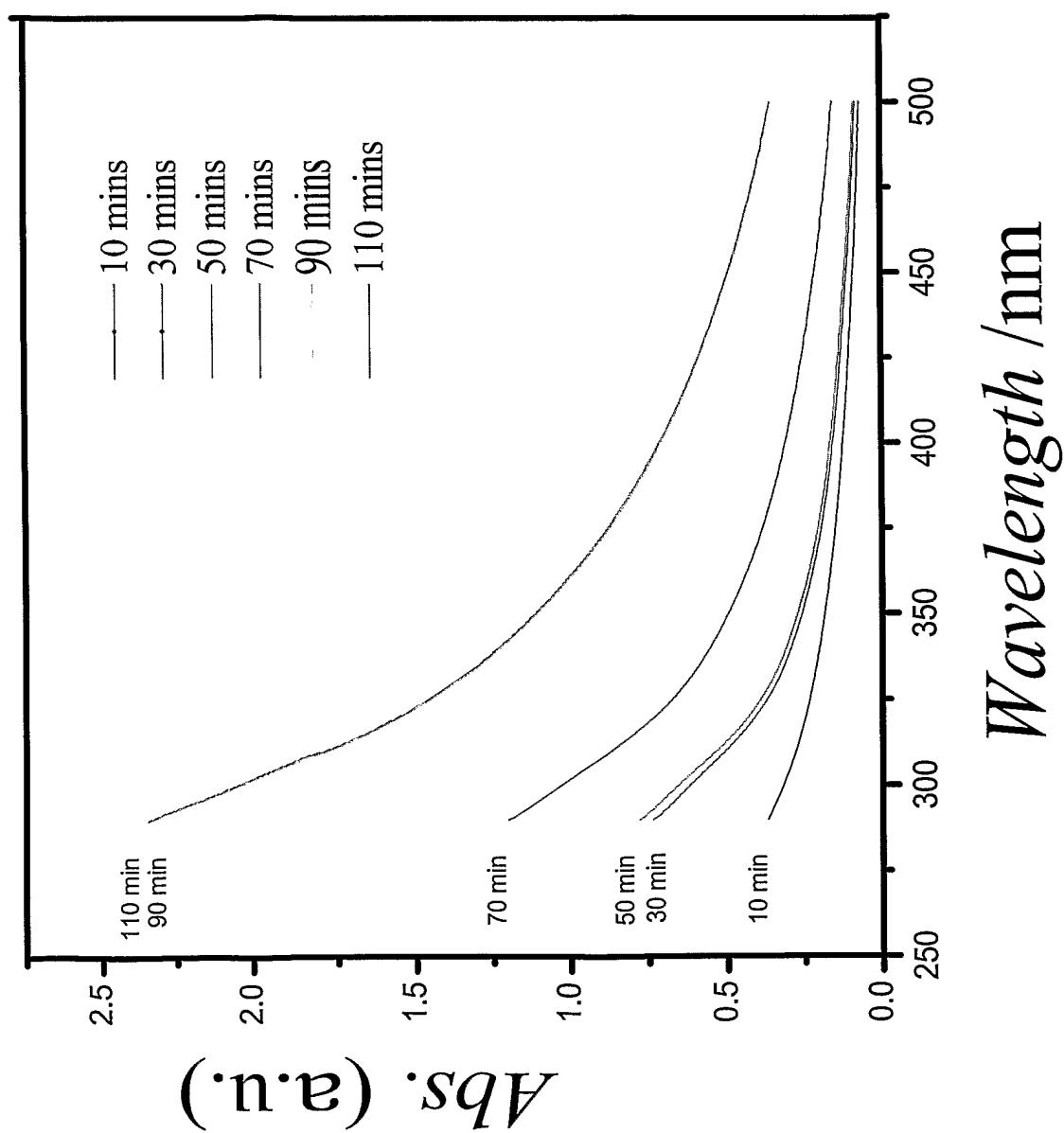
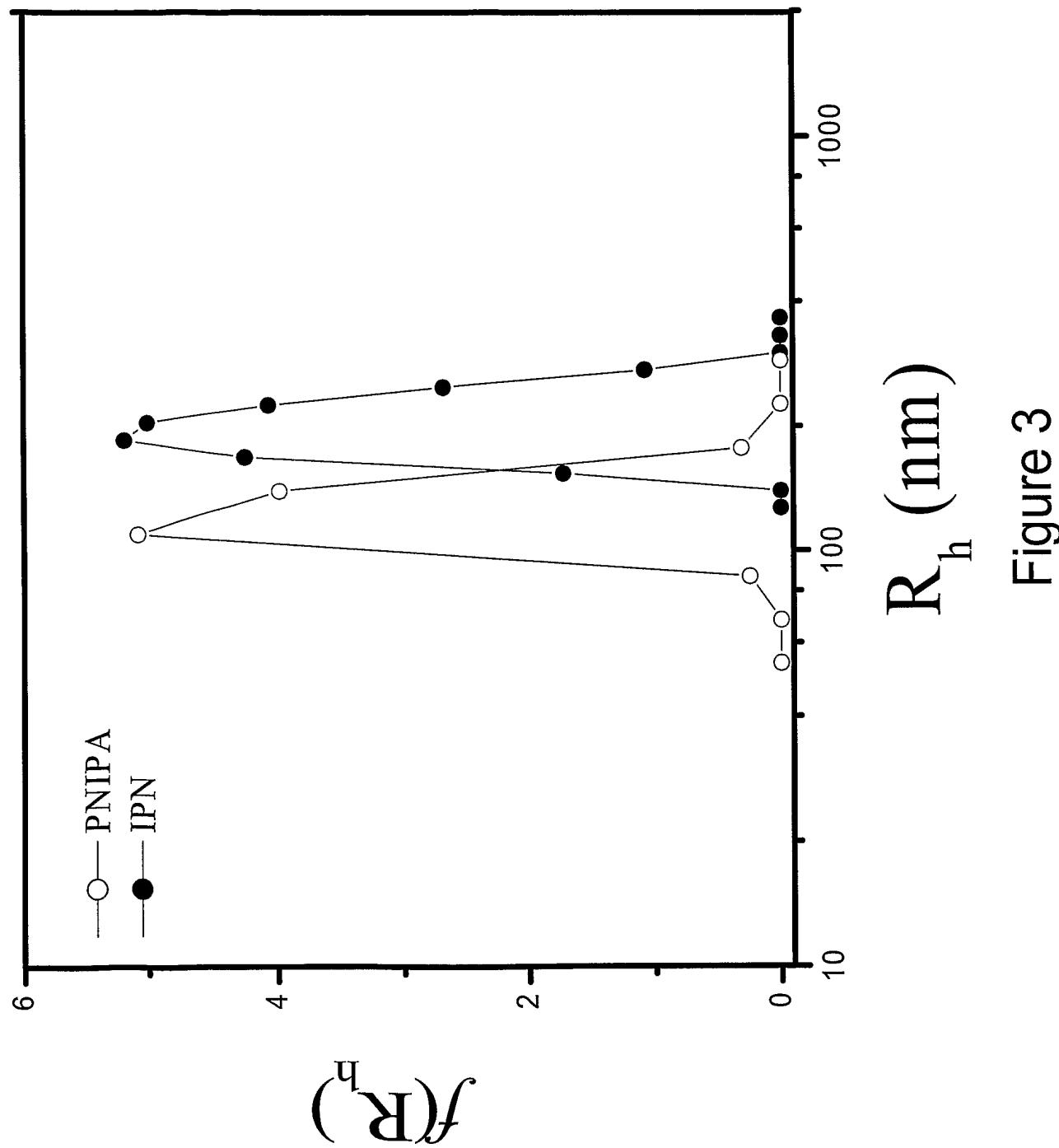
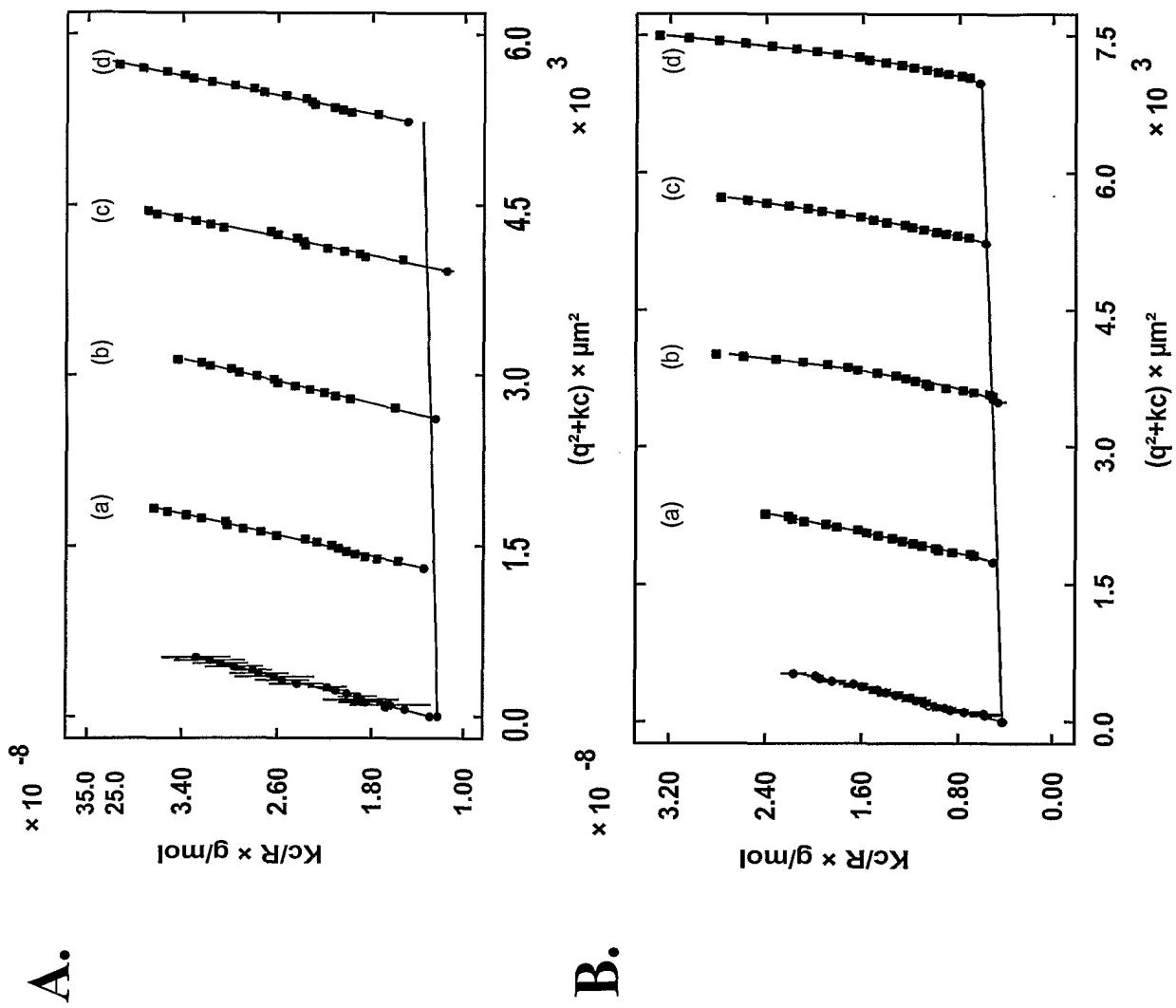


Figure 2

3 / 29



4 / 29

**Figure 4**

5 / 29

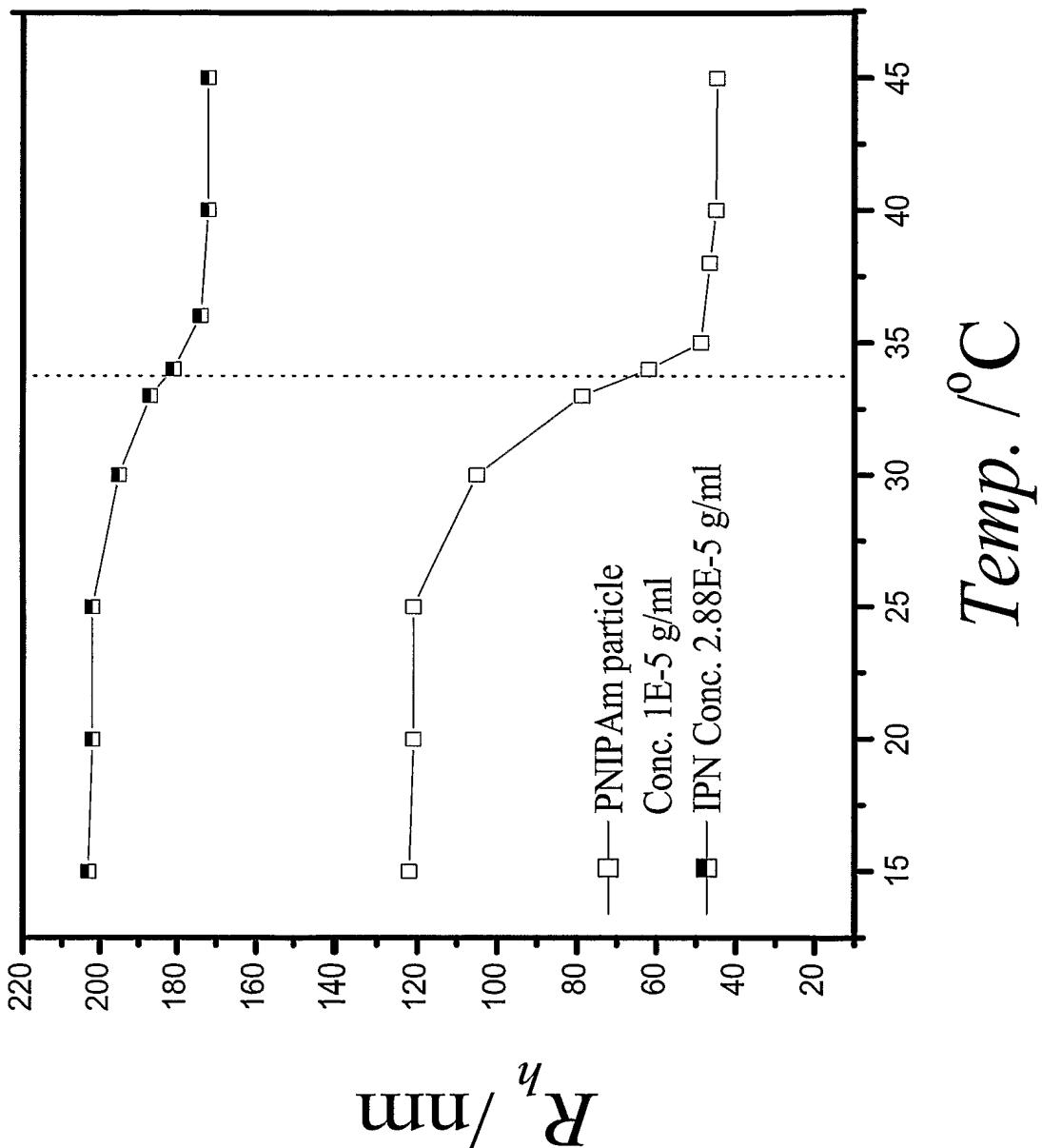


Figure 5

6 / 29

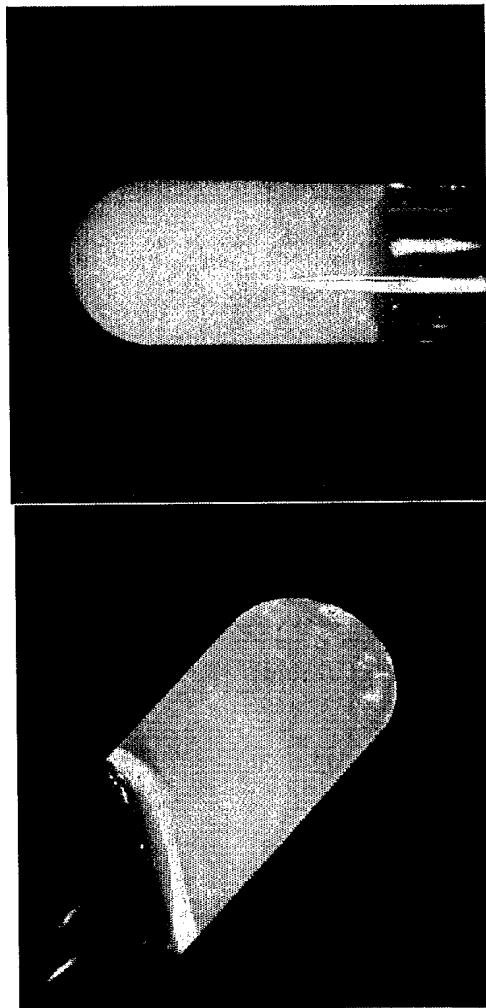


Figure 6

7 / 29

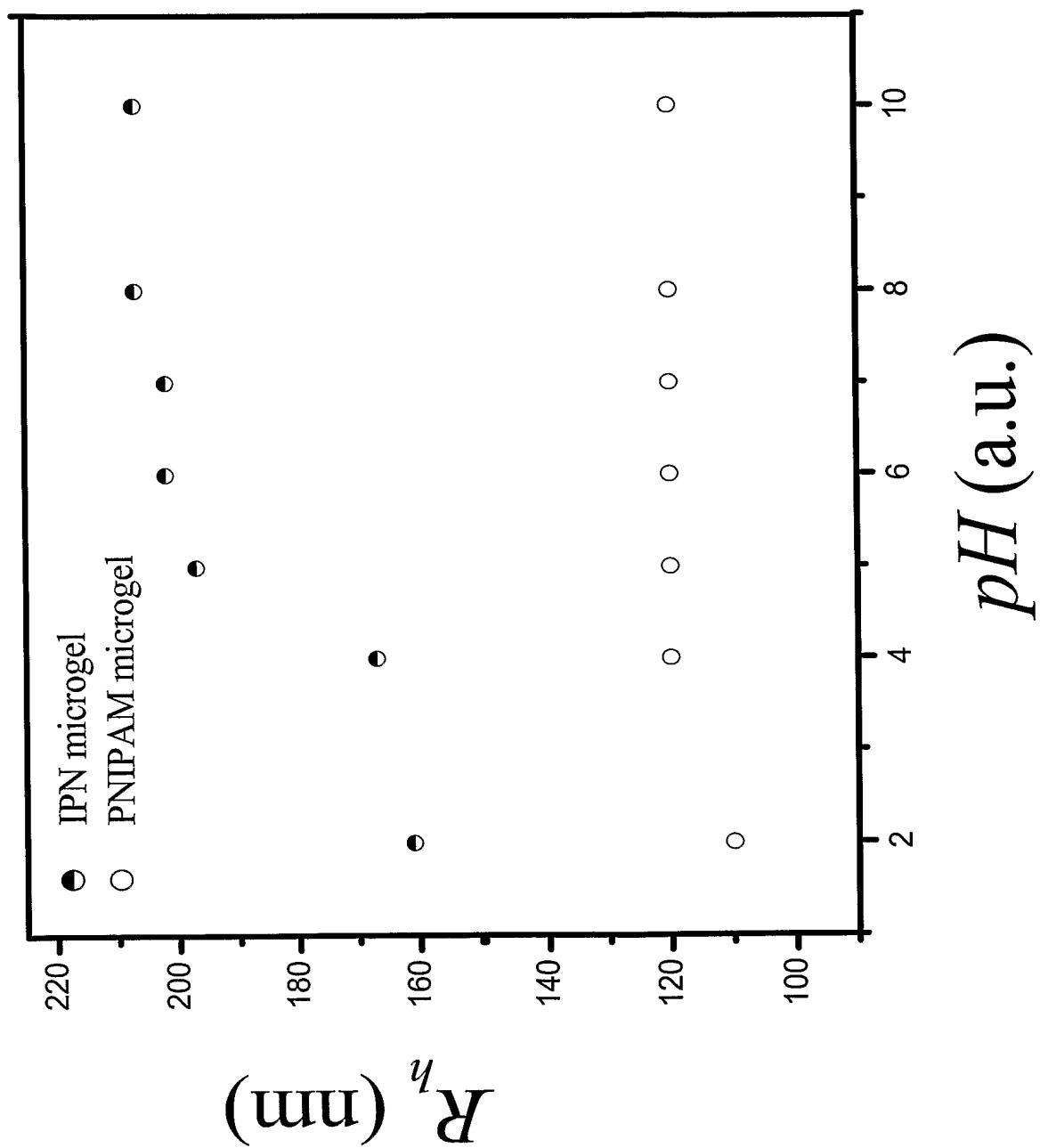
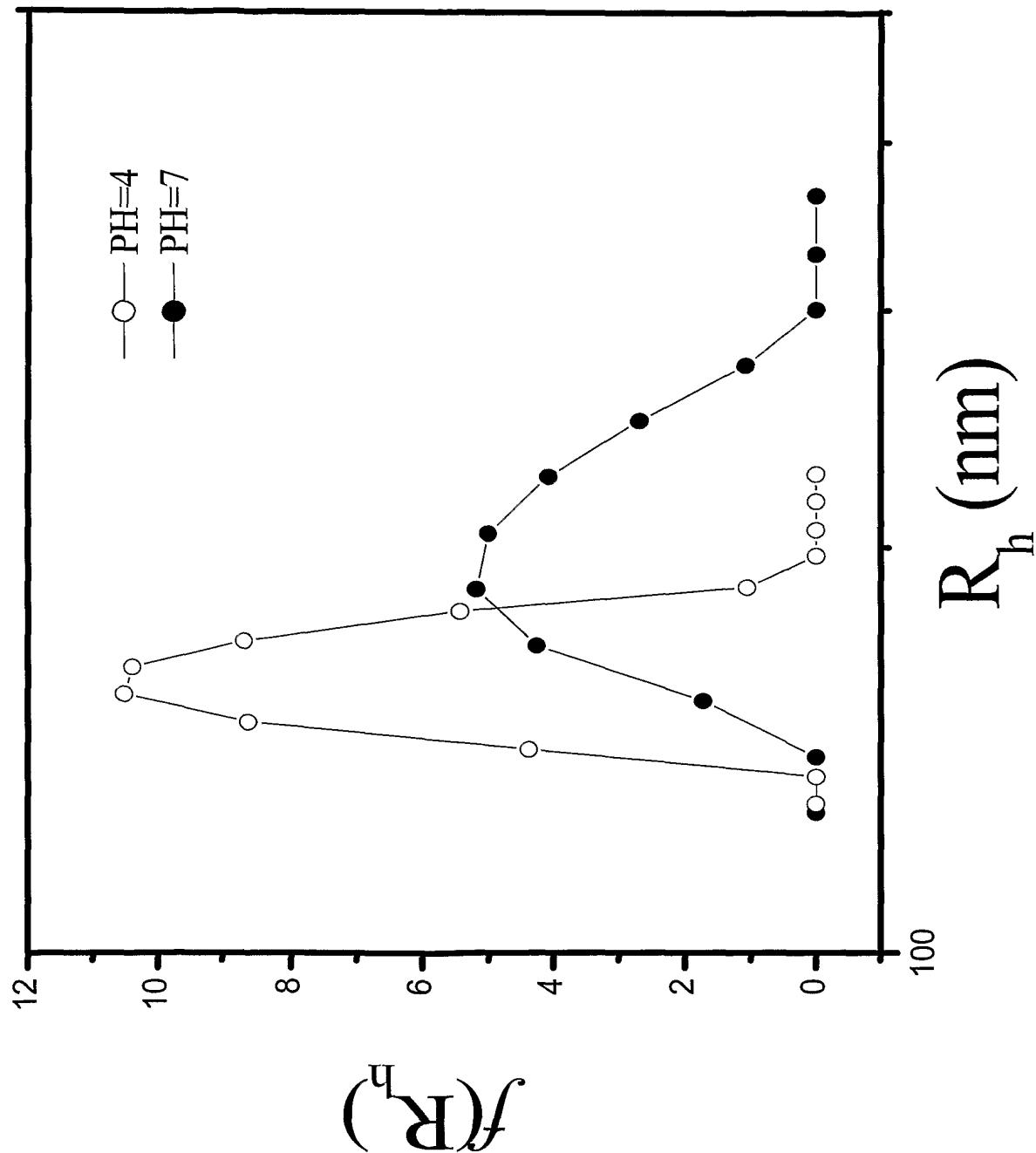


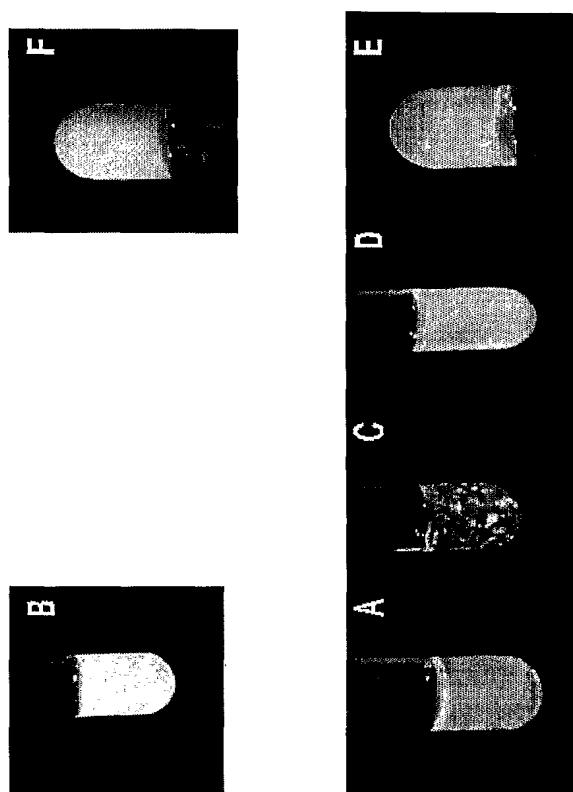
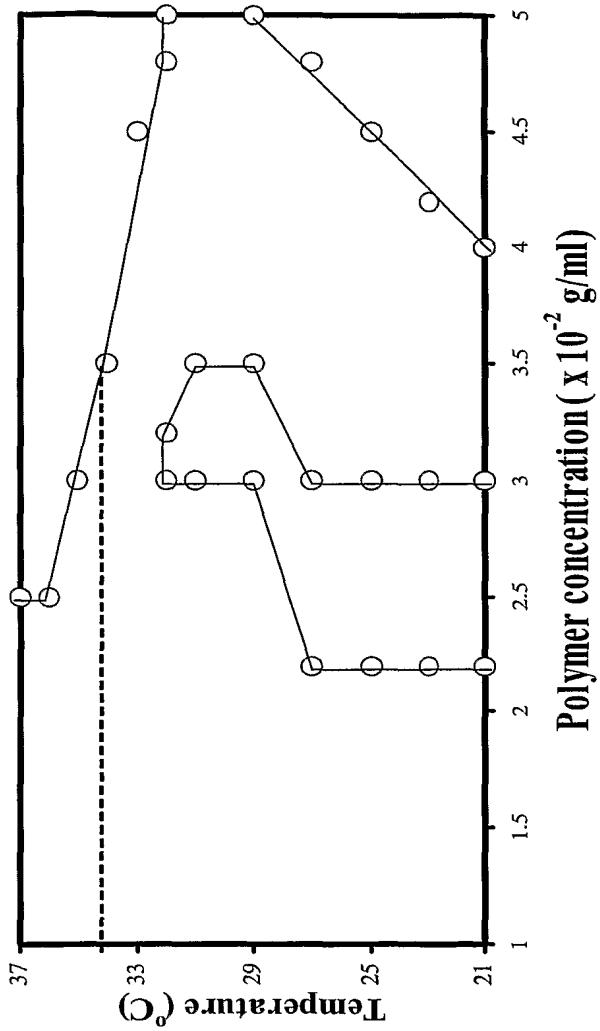
Figure 7

8 / 29



9 / 29

Figure 9



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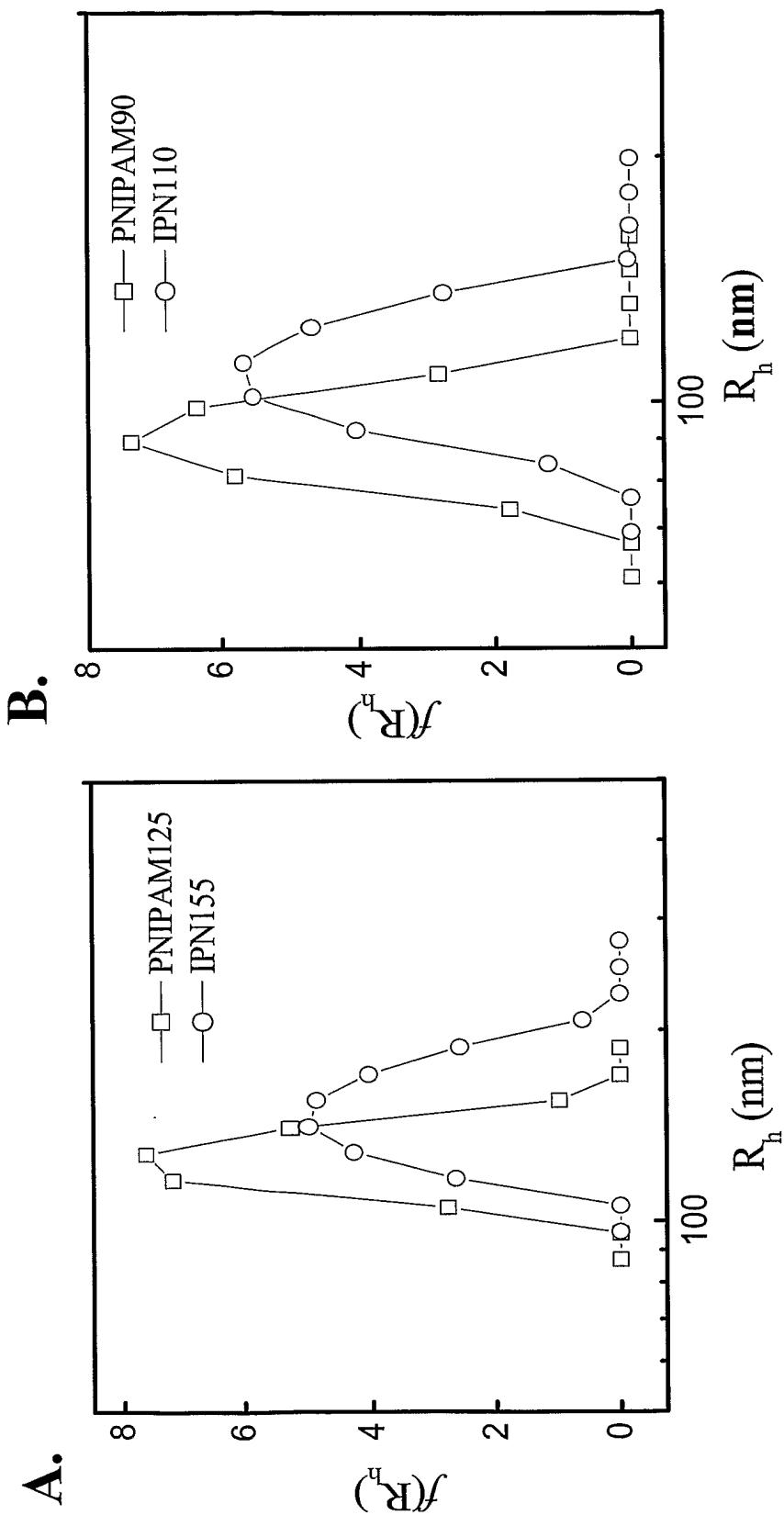


Figure 10

11 / 29

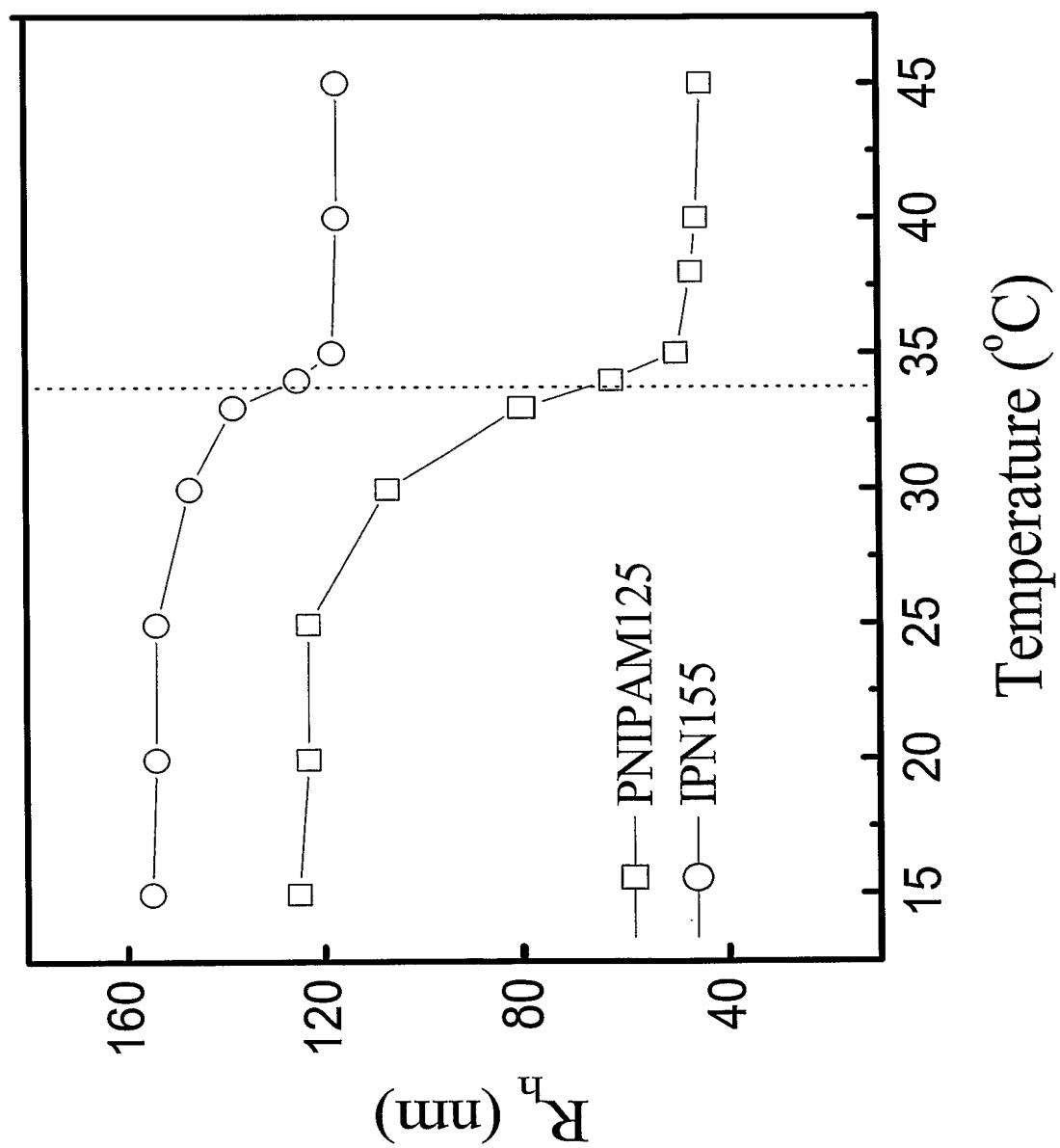


Figure 11

12 / 29

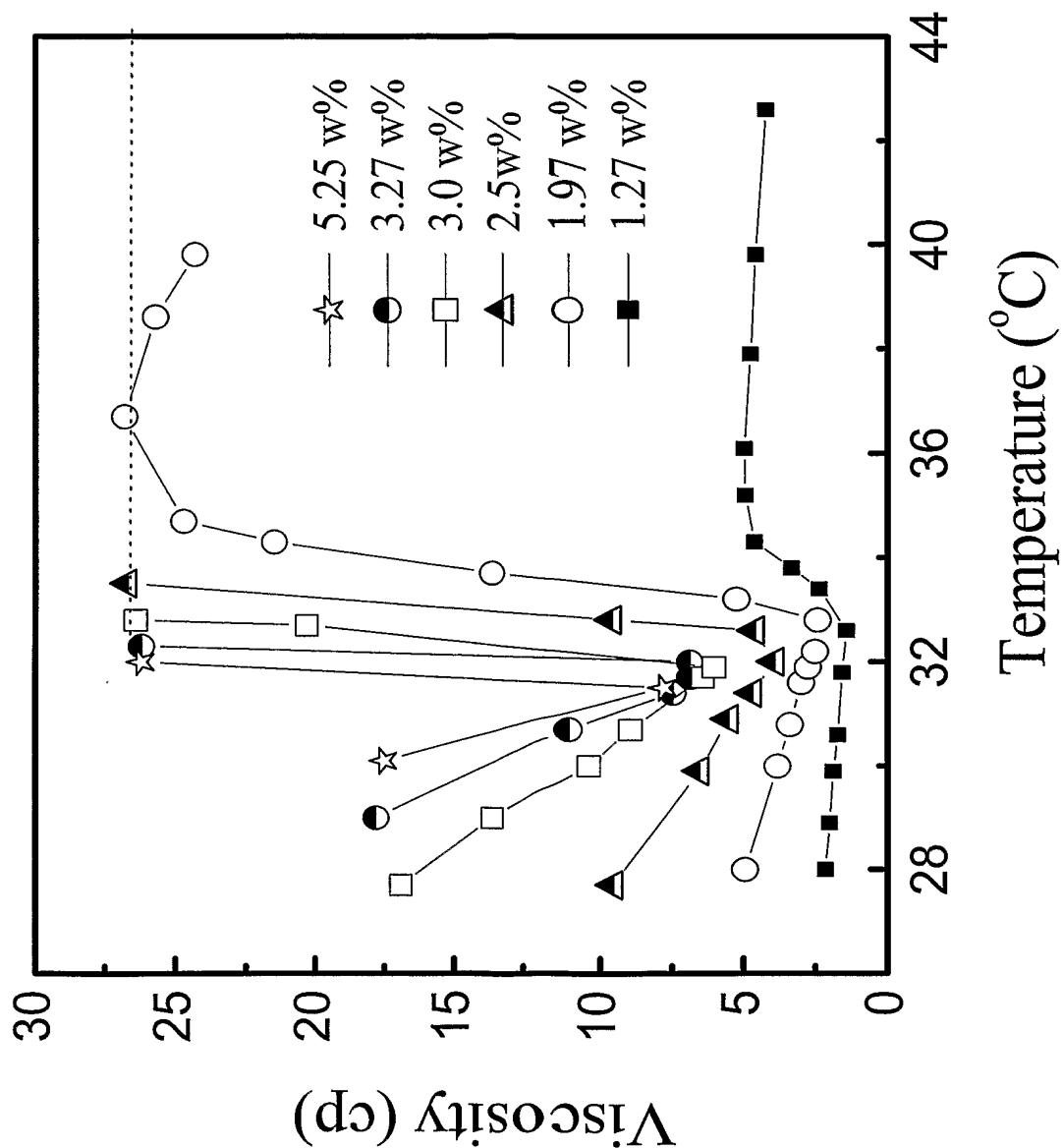


Figure 12

13 / 29

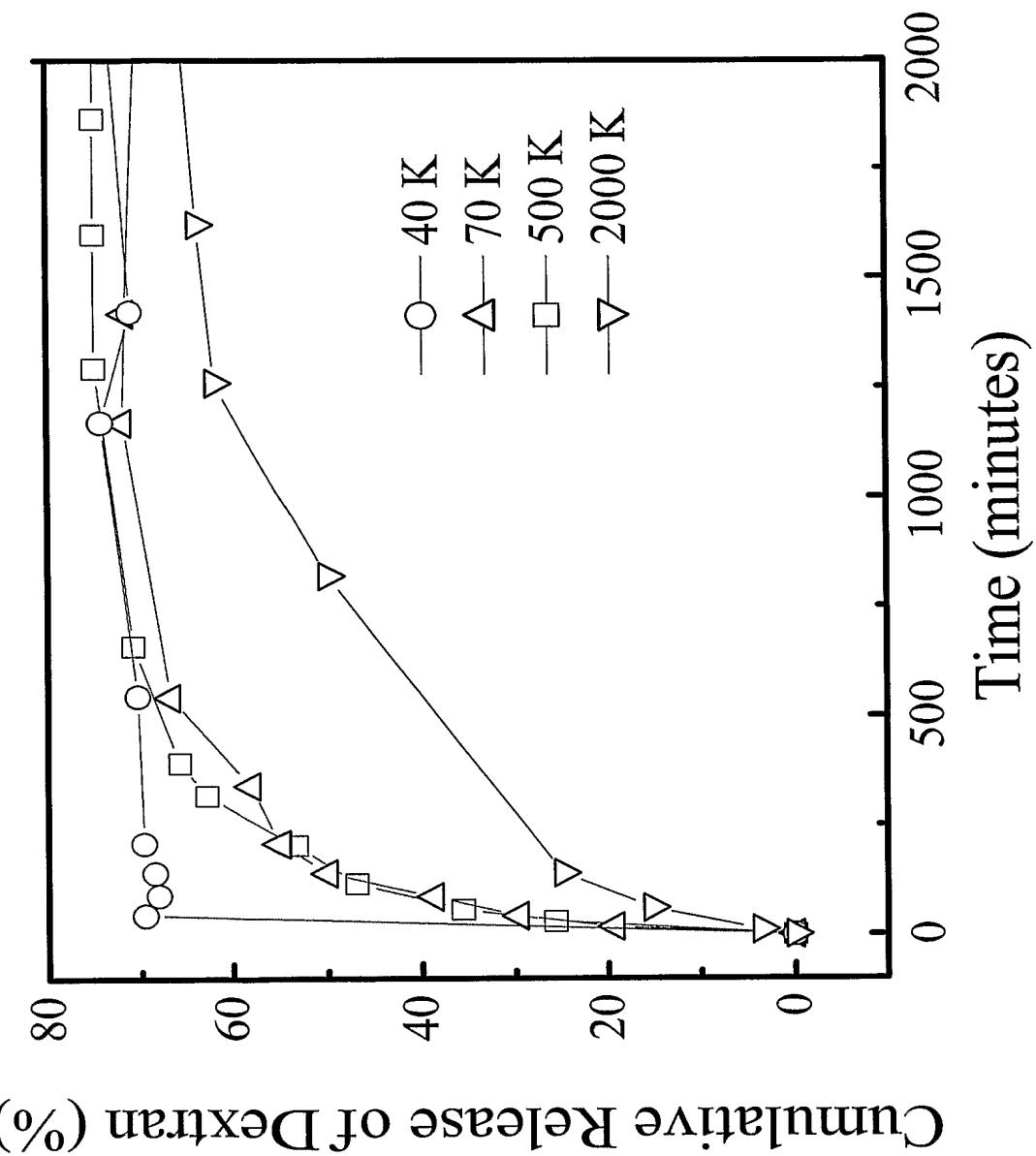


Figure 13

14 / 29

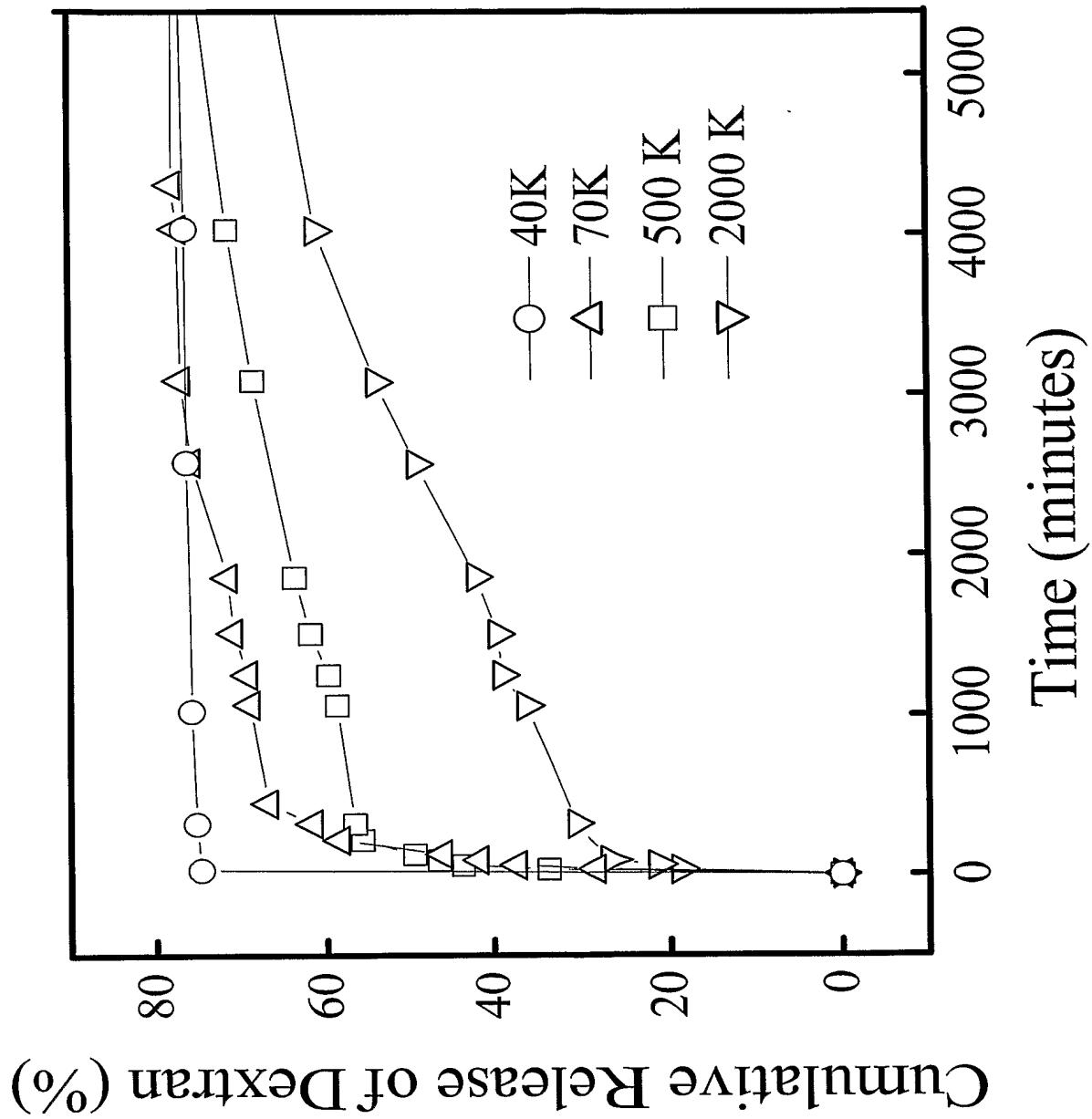


Figure 14

15 / 29

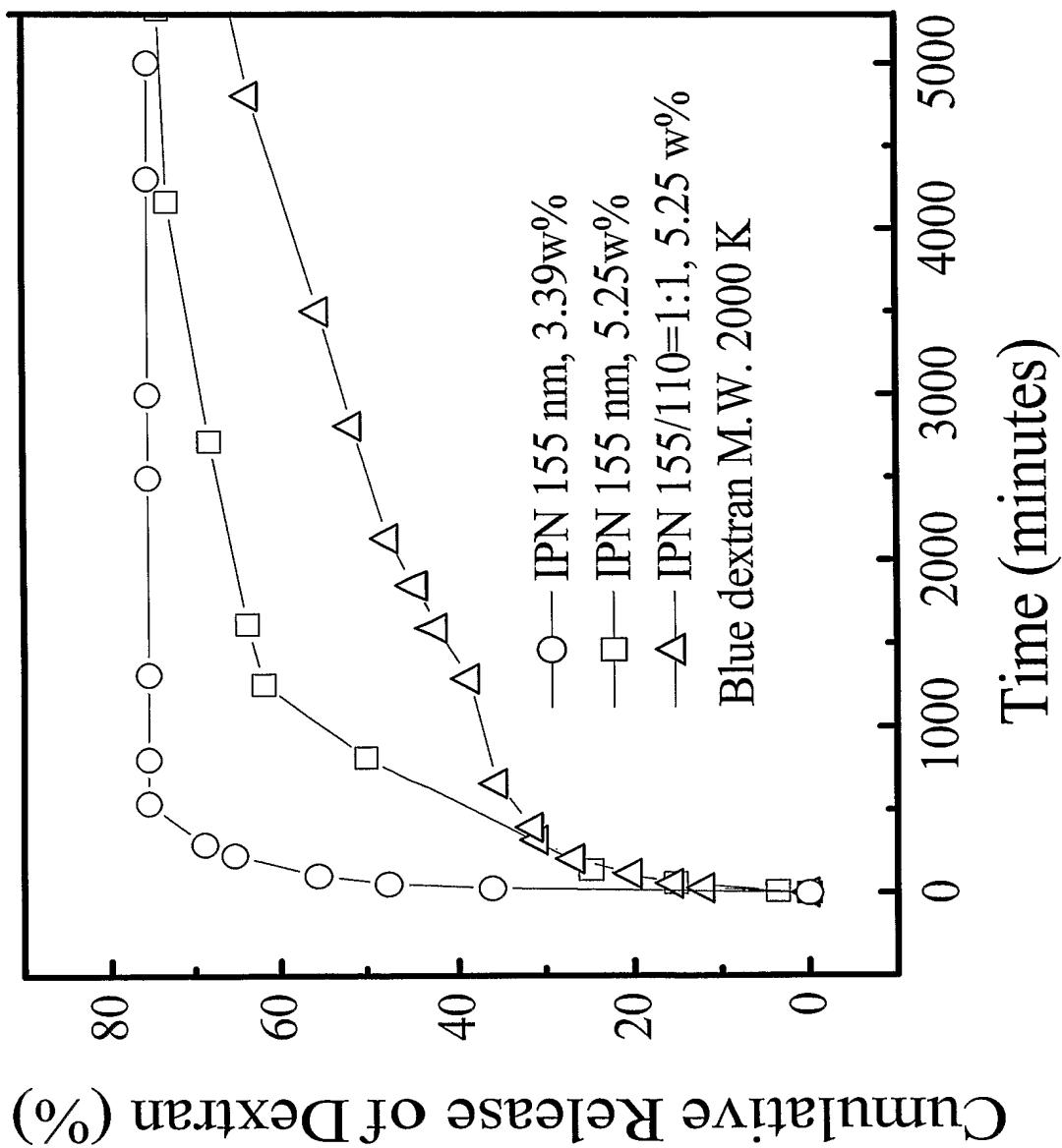


Figure 15

16 / 29

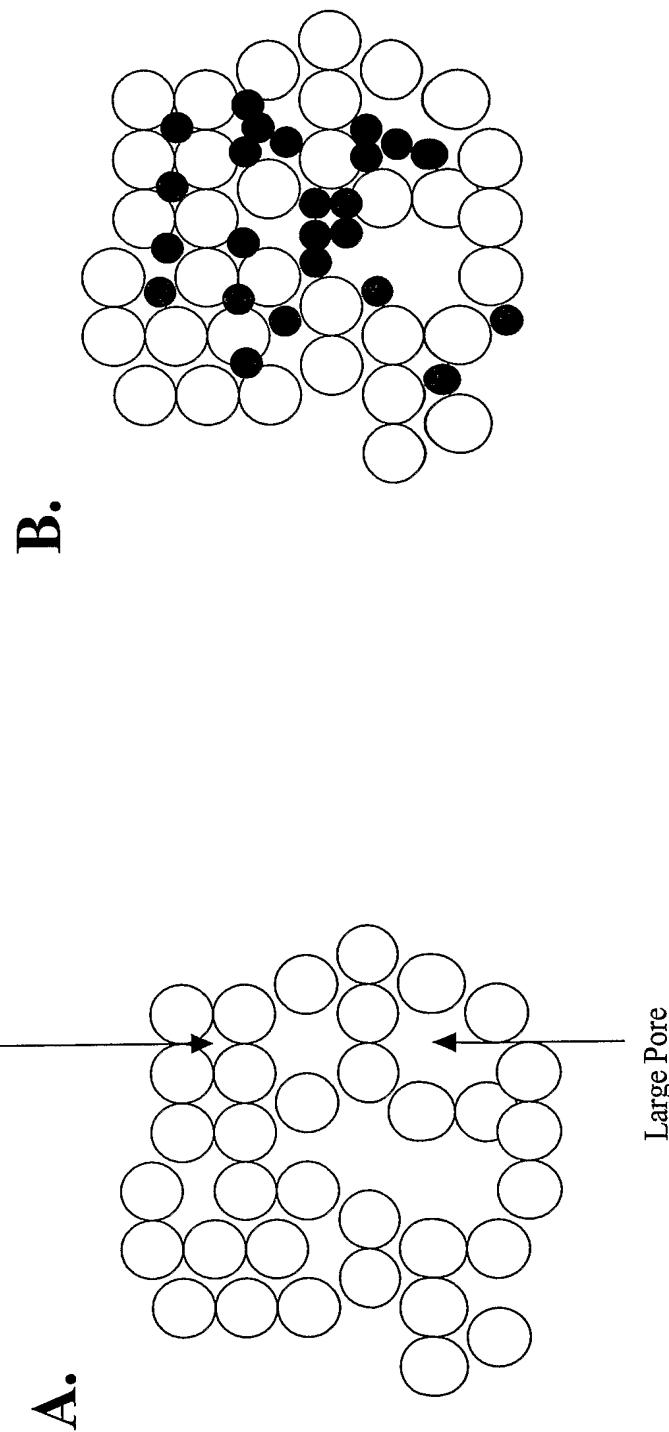


Figure 16

17 / 29

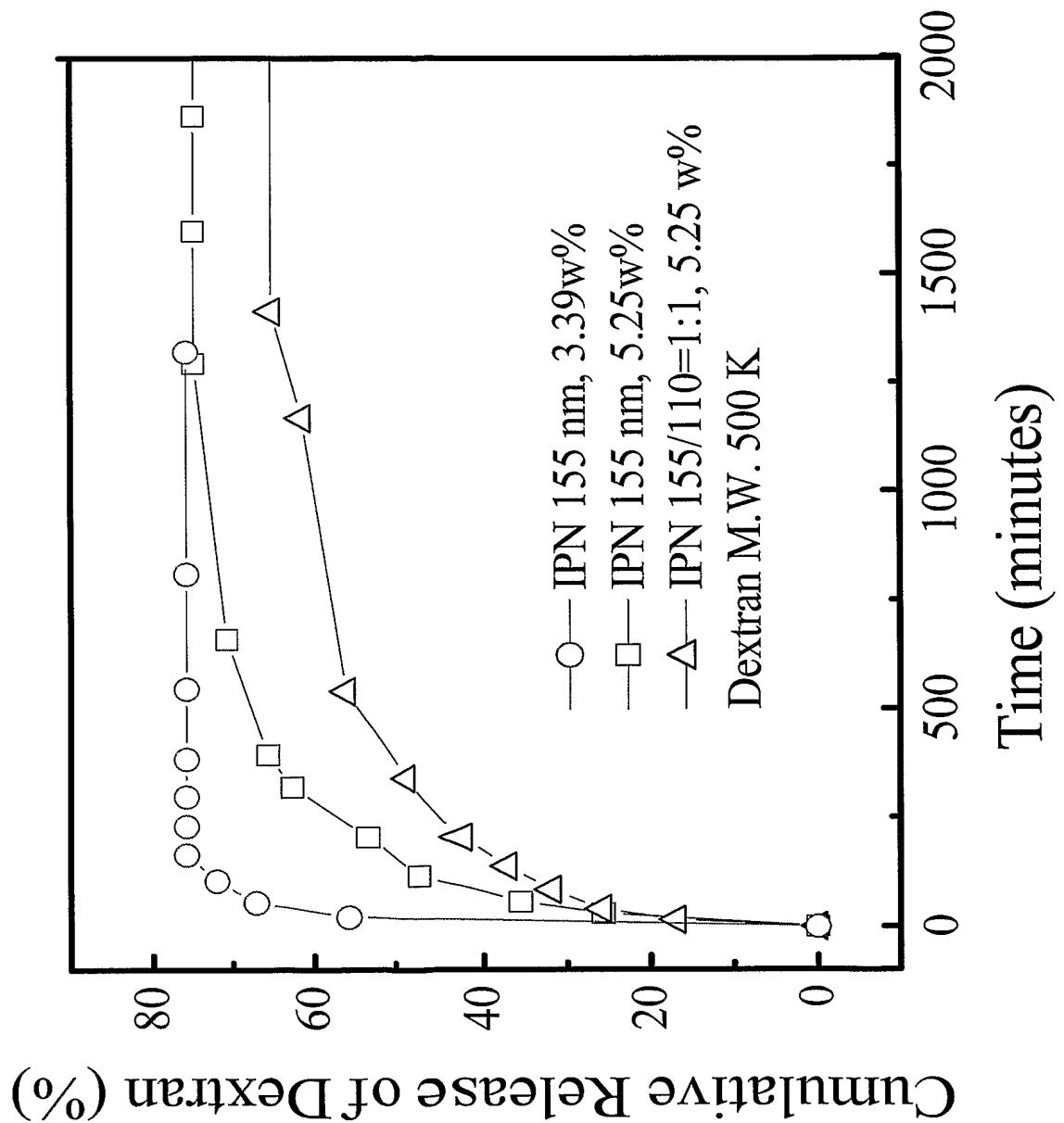


Figure 17

18 / 29

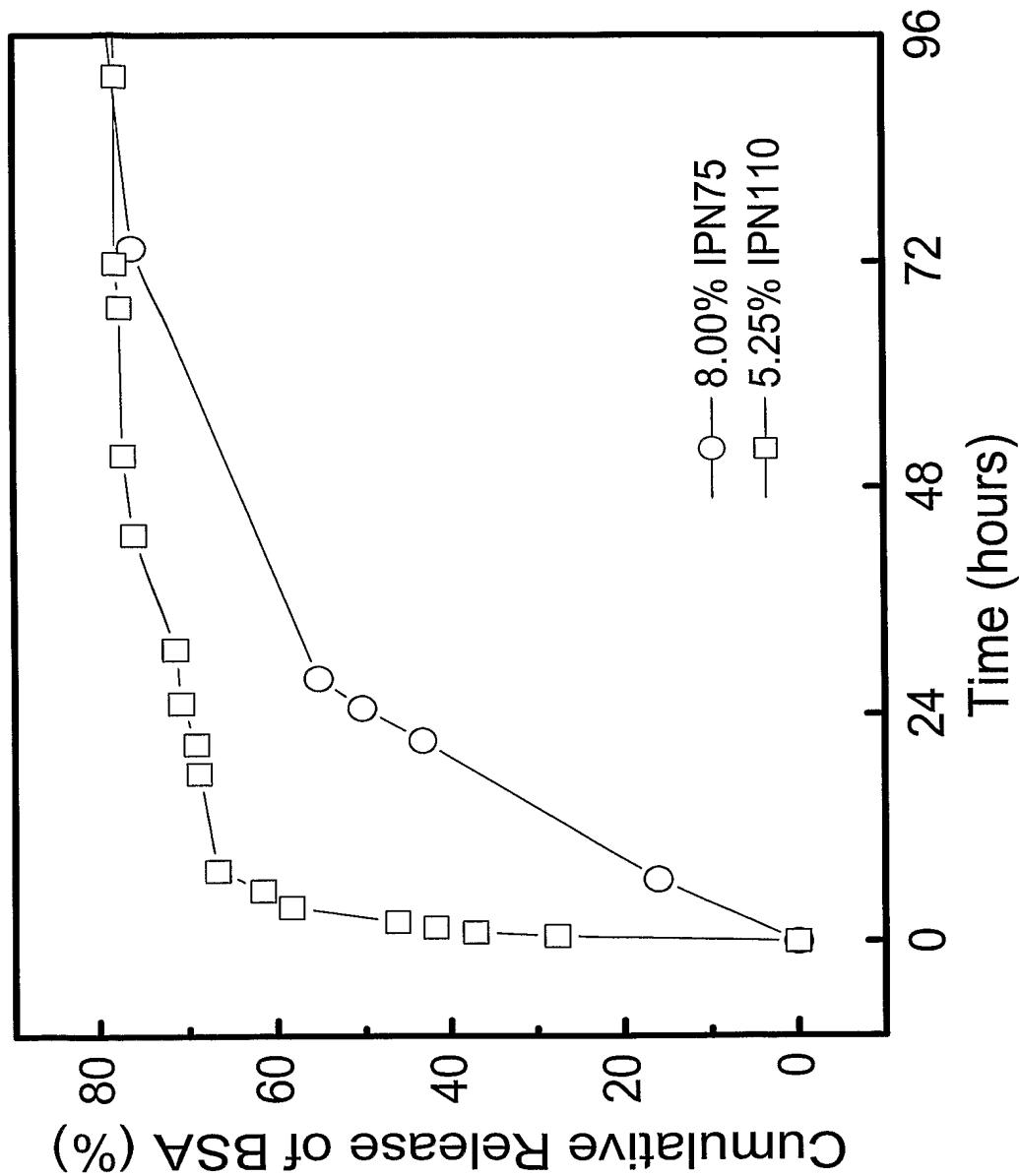


Figure 18

19 / 29

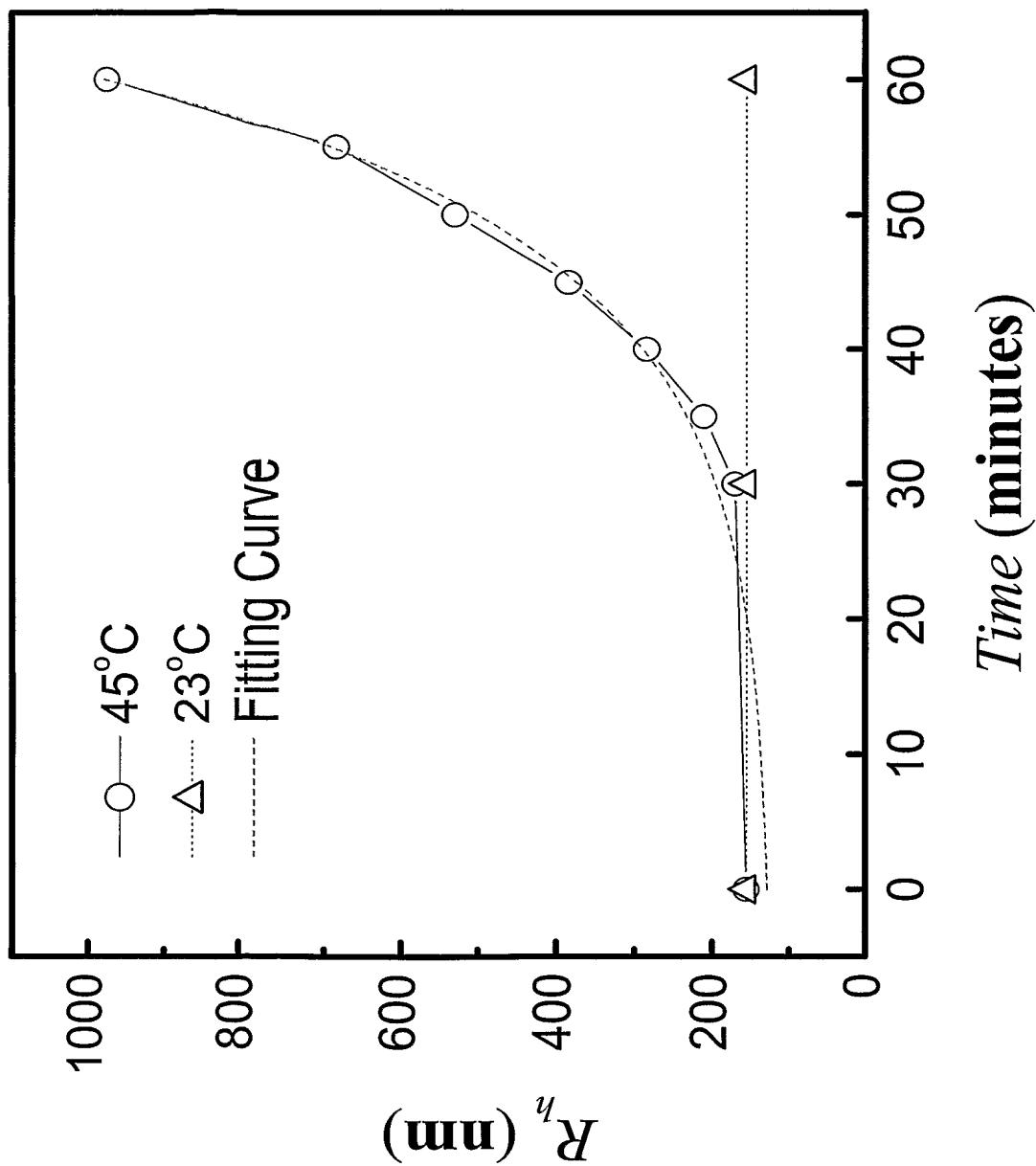


Figure 19

20 / 29

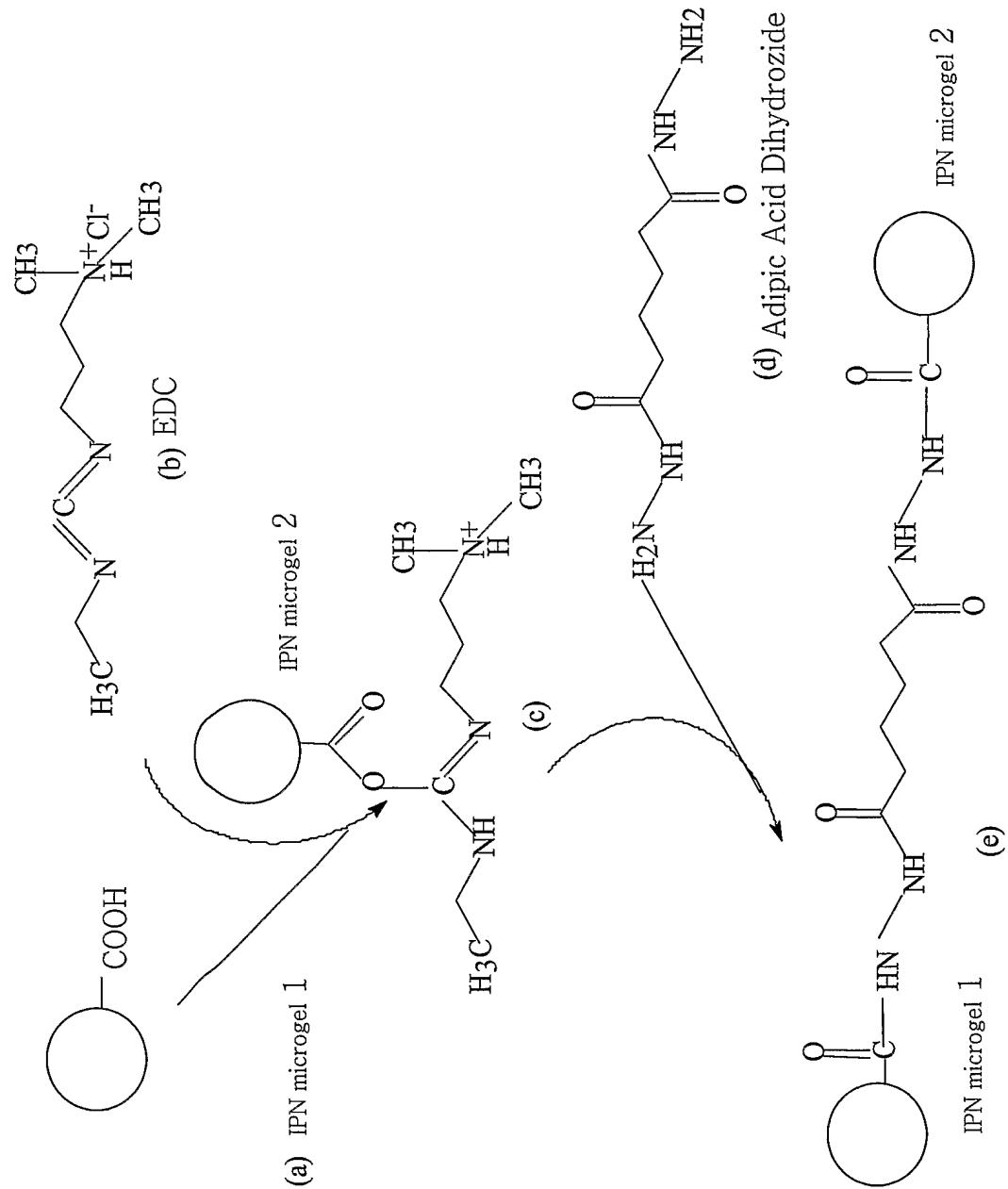


Figure 20

21 / 29

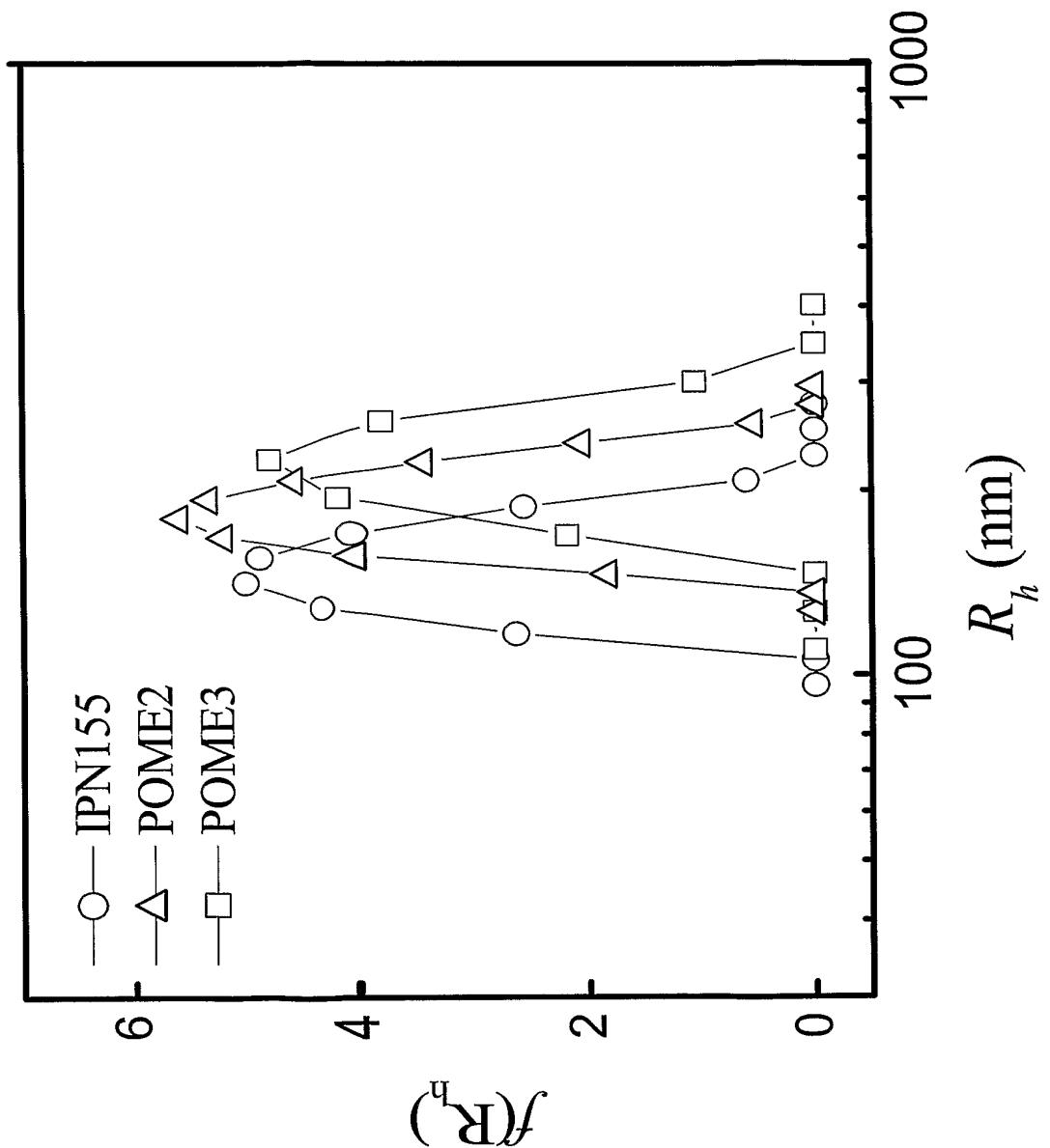


Figure 21

22 / 29

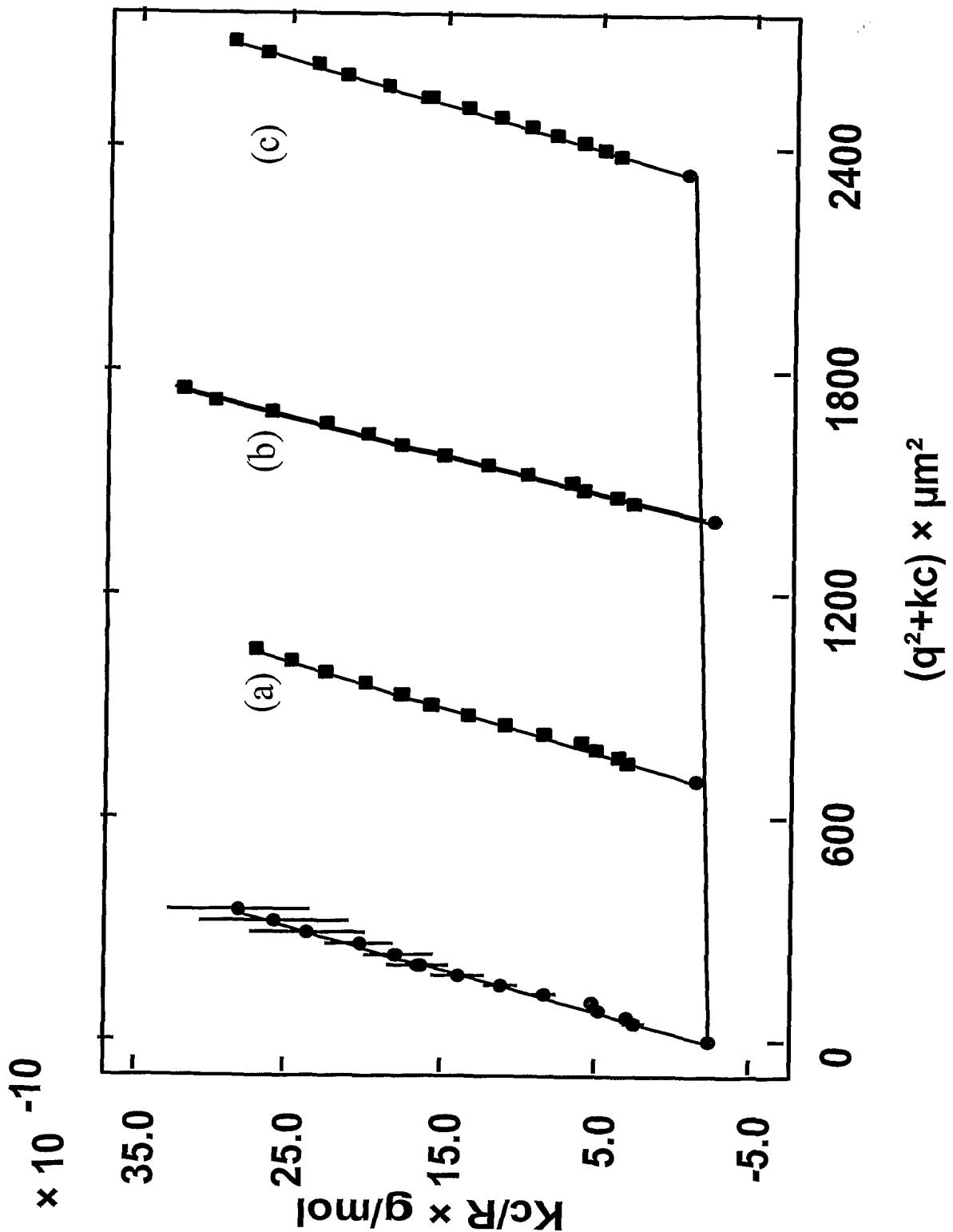


Figure 22

23 / 29

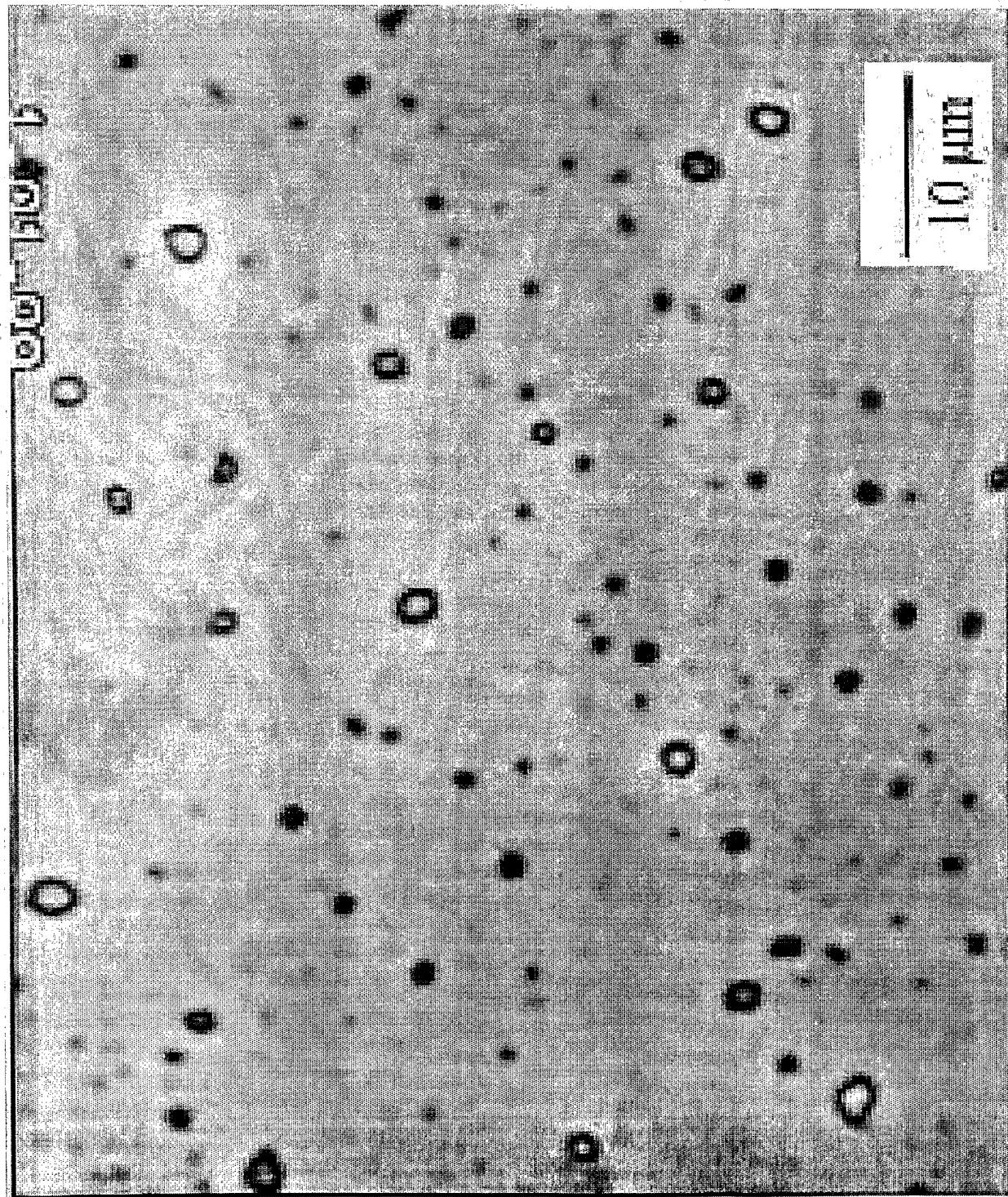


Figure 23

24 / 29

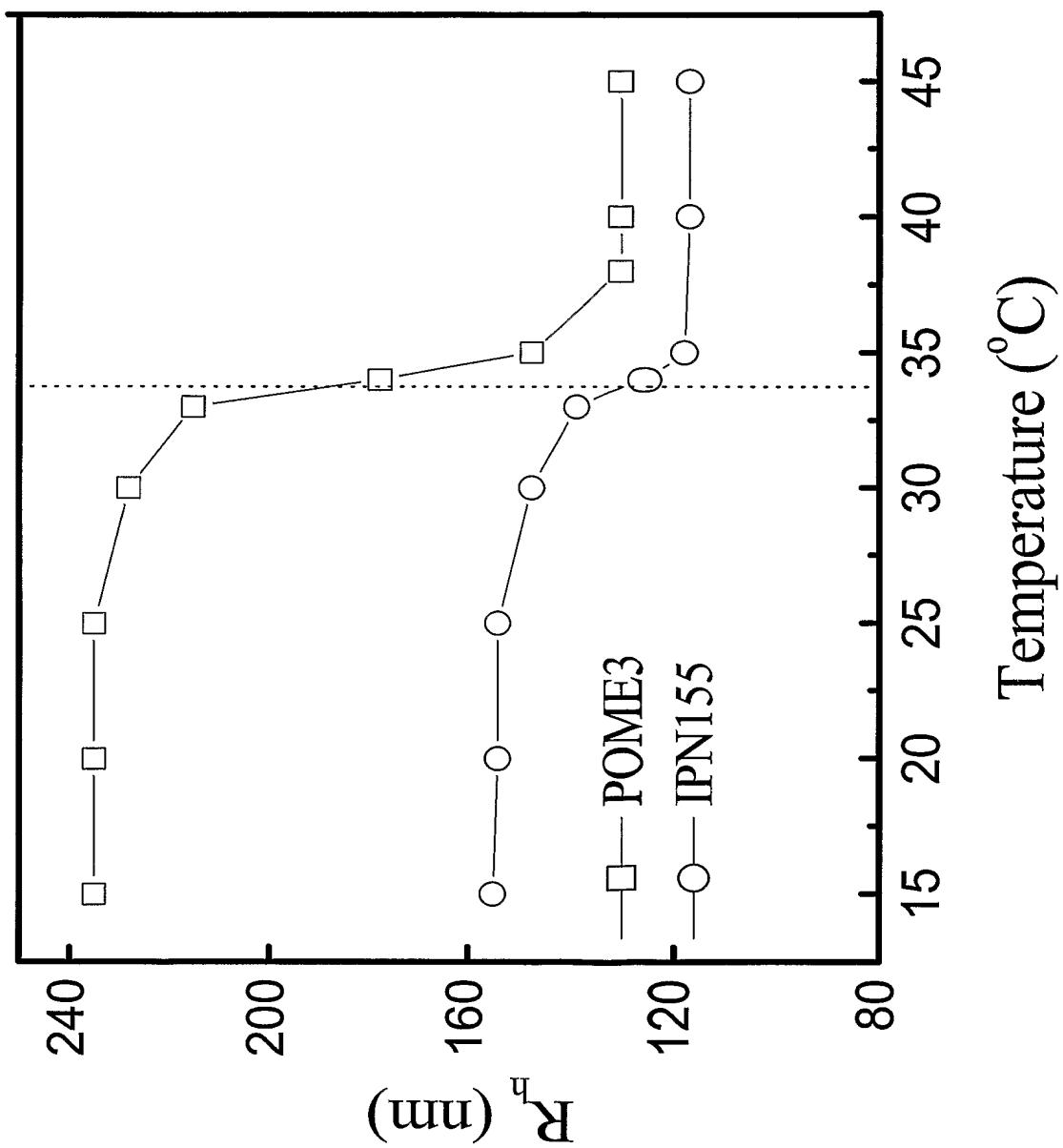


Figure 24

25 / 29

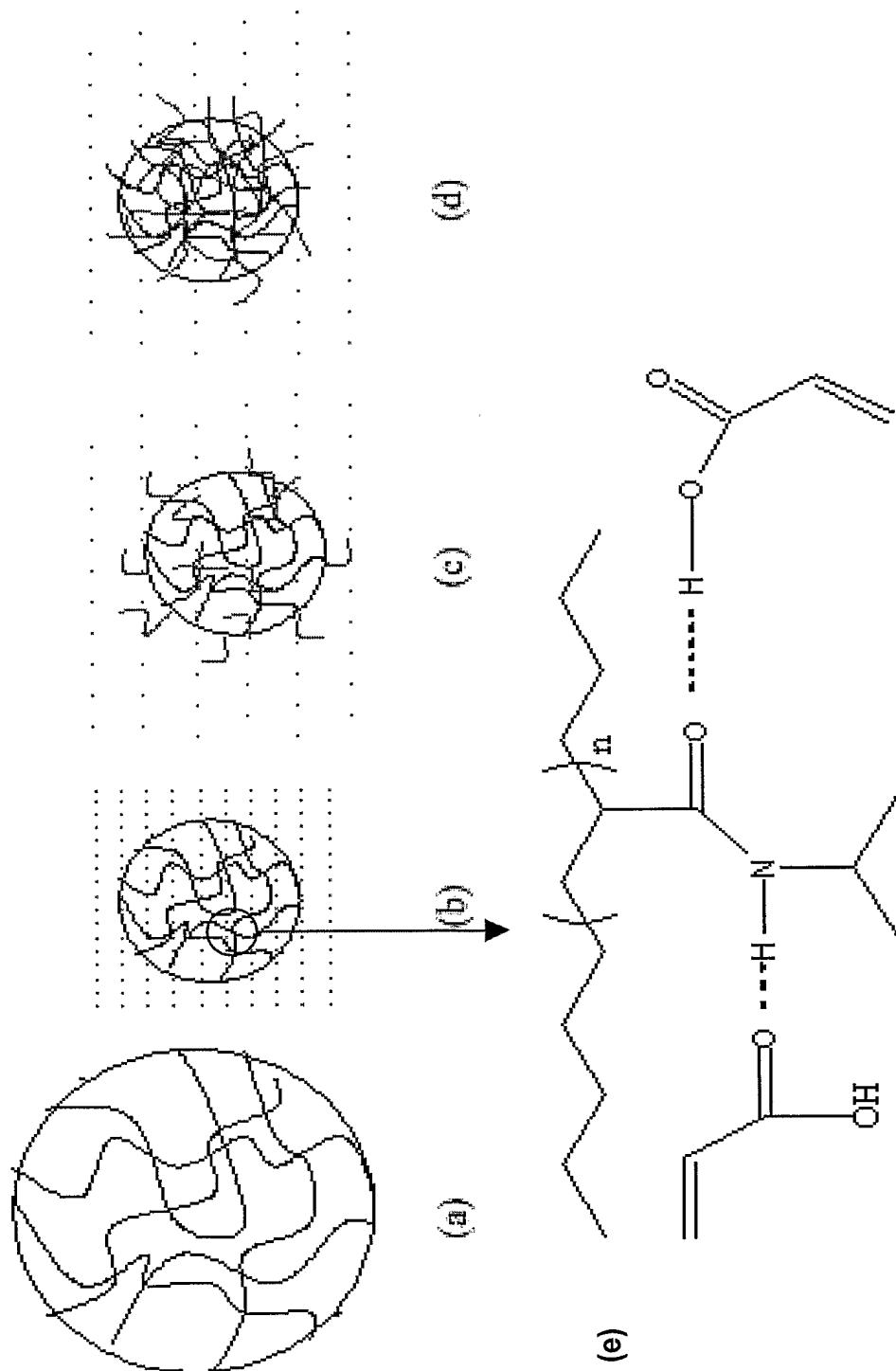


Figure 25

Table 1. Comparison of PNIPA and IPN Nanoparticles

	R _h (nm)	R _g (nm)	R _g /R _h (a.u.)	A ₂ (mol [*] cm ³ /g ²)	Mw (g/mol)	Density(g/cm ³)	PNIPA:PAA ratio
PNIPA	121	98	0.81	8.9x10 ⁻⁵	8.137x10 ⁷	1.82x10 ⁻²	1 : Nothing
IPN	202	143	0.71	9.5x10 ⁻⁵	2.341x10 ⁸	1.13x10 ⁻²	1 : 1.88

26 / 29

Figure 26

Table 2. Synthesis conditions for IPN Nanoparticles

	R _h / nm	Precurs or PNIPAm	Reaction temp. / °C	Reaction time /mins	Precursor PNIPAm PD.I.*	IPN PD.I	PNIPAm:PA A
IPN110	110	90	23	23	1.05	1.08	1 : 0.13
IPN155	155	125	23	23	1.03	1.07	1 : 0.50

* PD.I stands for Polydispersity Index.

Figure 27

Table 3. Time required for 60% of the loading drugs being released at 37°C

From 5.25% microgel networks	M.W. 40K	M.W. 70K	M.W. 500K	M. W. 2M
IPN155 (minutes)	Less than 30	300	300	1300
IPN110 (minutes)	Less than 30	320	1000	4000
IPN155/IPN110 (1:1) (minutes)	--	--	1000	4600

Figure 28

Table 4 a detailed comparison between Cluster 3 and IPN microgels.

	R _h (nm)	R _g (nm)	R _g /R _h (a.u.)	PD.I.	Mw (g/mol)	Density(g/cm ³)	LCST
IPN155	155	110	0.71	1.03	2.80 x 10 ⁸	1.43x10 ⁻²	33°C
Nanocluster3	235	178	0.75	1.04	9.30x10 ⁹	1.36x10 ⁻²	33°C

Figure 29